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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,392	06/28/2007	Thomas N. Horsky	211843-00044	3848

27160 7590 03/17/2008
PATENT ADMINISTRATOR
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EXAMINER

SOUW, BERNARDE

ART UNIT	PAPER NUMBER
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2881

MAIL DATE	DELIVERY MODE
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03/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,392	Applicant(s) HORSKY ET AL.	
	Examiner BERNARD E. SOUW	Art Unit 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/21/2006 (Pre-Amdt).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 70-138 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 102 and 130 is/are rejected.
- 7) ☒ Claim(s) 70-101, 103-129 and 131-138 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/9/07 + 8/21/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 371 (PCT/EP2004/02140, which papers have been placed of record in the file.

Information Disclosure Statement

2. Receipt is acknowledged of information disclosure statement (IDS) submitted on 02/09/2007 and 08/21/2006. The submission is in compliance with the provisions of 37 CFR 1.97.

Signed copies of the information disclosure statements are here enclosed.

Preliminary Amendment

3. The Preliminary Amendment filed on 12/29/2006 has been entered. The present Office Action is made with all the suggested amendments being fully considered.

Claims 2-69 have been cancelled.

New claims 70-138 have been added.

Claims 1 and 70-138 are pending in this Office Action.

Double Patenting

Non-Statutory Type Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Obviousness Type Double Patenting

4. Claims 1 and 102 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending U.S. Patent Application No. 11/647,898. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

- ▶ The ion source and its accessories are the same as those of the reference application.
- ▶ The extraction electrode is also the same as that of the reference application.
- ▶ The reactive gas cleaning system is also the same as that of the reference application.

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► The additional limitation regarding the surface of the ion source being susceptible to contamination deposits is not a true limitation, but only a general condition well known in the art.

► As such, the present claims 1 and 102 are obvious variations of claim 1 of the reference application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claim 130 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending U.S. Patent Application No. 11/647,719. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

► The preambles of the present claim recites the same limitations of “*ion implantation*” and “*extraction electrode*” as the copending application.

► The present extraction electrode is associated with an “*electric heater*” that is “*adapted to maintain the extraction electrode at elevated temperature above the condensation temperature of gaseous or vaporous material leaving the ion source*”. This is the same as the reference claim 1 of the copending application, which recites an extraction electrode “*combined with a heater to maintain the extraction electrode at an elevated temperature to counter condensation on the electrode of gases or vapors leaving the ion source*”.

► As such, the present claim 130 is an obvious variation of claim 1 of the reference application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Indication of Allowable Subject Matter

6. Claims 1 and 102 would be allowable upon submitting a Terminal Disclaimer over US Application SN 11/647,898.

7. Claim 130 would be allowable upon submitting a Terminal Disclaimer over US Application SN 11/647,719.

8. Claims 70-101, 103-129 and 131-138 are objected to as being dependent upon a rejected base claim, but would be allowable upon obviating the Obviousness Double Patenting rejection of the respective parent claims.

Reasons for Indication of Allowable Subject Matter

9. The following is an examiner's statement of reasons for allowance:

► Claims 1 and 102 contain allowable subject matter for reciting a system for generating an ion beam comprising an ion source in combination with an extraction electrode and a reactive gas cleaning system, the ion source comprising an ionization chamber maintained at a high voltage and having an inlet for gaseous or vaporized feed materials, an ionizing system for ionizing the feed material within the ionization

chamber, and an extraction aperture that communicates with a vacuum housing that is evacuated by a vacuum pumping system, the extraction electrode disposed in the vacuum housing outside of the ionization chamber, aligned with the extraction aperture and adapted to be maintained at a voltage below that of the ionization chamber to extract ions through the aperture, and the reactive gas cleaning system operable when the ionization chamber and ionizing system are de-energized to provide a flow of reactive gas through the ionization chamber and through the ion extraction aperture to react with the deposits, and thus removing the deposits from at least some of the surfaces of the ion generating system.

► Claim 130 contains allowable subject matter for reciting an ion implantation system having an ion source and an extraction electrode for extracting ions from the ion source, in which the extraction electrode is associated with an electrical heater, the heater adapted to maintain the electrode at elevated temperature above the condensation temperature of gaseous or vaporous material during ion extraction.

► Claims 70-101, 103-129 and 131-138 also contain allowable subject matter for their dependency, either directly or indirectly, to the previously allowable claims 1, 102 or 130.

Relevant Prior Art

10. This prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

► USPGPub 2007/0170372, USPGPub 2006/0272775, USPGPub 2006/0272776, USPGPub 2007/0108395, USPGPub 2006/0097645, USPGPub 2008/0042580, USPGPub 2008/0047607, and US Applications No. 11/648,269 and 11/647,7714, all issued to Horsky et al., disclose the same subject matter as the present application. However, the claims are fully different, such that Obviousness Double Patenting is not an issue. Since the inventor's entity and the assignee are also the same, none of the references can be effectively applied as prior art for rejecting the present invention, although some have earlier application dates and no priority is being claimed.

► USPAT 4105916 issued to Siegel discloses an ion source similar to the present application, including the use of solid vaporizer. However, Siegel does not teach the use of reactive gas for cleaning the system.

► USPGPub 2006/0237663 issued to Balogh discloses an ion source similar to the present application. However, Balogh does not teach the use of solid vaporizer or any cleaning system.

► USPGPub 2007/0119546 issued to Collins et al., USPAT 6,259,105 issued to Eddy et al., and USPAT 6,135,128 issued to Graf et al. disclose a variety of cleaning system based on reactive gases. However, none of them teaches an ion source for use in ion implantation.

Communications

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw, Ph.D., whose telephone number is

571 272 2482. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571 272 2293. The central fax phone number for the organization where this application or proceeding is assigned is 571 273 8300 for regular communications as well as for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571 272 5993.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Bernard E Souw/

Primary Examiner, Art Unit 2881